Congressional Budget Office
Nonpartisan Analysis for the U.S. Congress

ANSWERS TO QUESTIONS FOR THE RECORD

Following a Hearing Titled

"Running on Empty: The Highway Trust Fund"

Conducted by the
Subcommittee on Highways and Transit
Committee on Transportation and Infrastructure
U.S. House of Representatives

December 4 | 2023

On October 18, 2023, the House Transportation and Infrastructure Committee's Subcommittee on Highways and Transit convened a hearing at which Chad Shirley, a principal analyst at the Congressional Budget Office, testified on the status of the Highway Trust Fund.[1] *After the hearing, Ranking Member Rick Larsen and Representatives John Garamendi, Seth Moulton, and Patrick Ryan submitted questions for the record. This document provides CBO's answers. It is available at* www.cbo.gov/publication/59725.

Ranking Member Larsen's Question About Charging Fees for Electric Vehicles

Question. Mr. Shirley, some have suggested that electric vehicles are to blame for the Highway Trust Fund's insolvency. The Congressional Budget Office has looked at options for charging fees for electric vehicles. How much revenue would those generate? Would that amount be anywhere close to closing the projected shortfall in Highway Trust Fund revenue?

Answer. An annual fee for electric vehicles (EVs) would probably not have a substantial effect on the trust fund's shortfall over the next 10 years because such vehicles are projected to make up a relatively small portion of the total stock of vehicles. If in 2022 the federal government had charged an annual fee of $100 for vehicles that ran entirely on electricity and plug-in hybrids, it would have raised about $300 million, CBO estimates.[2] That $100 fee would be comparable to the average amount that drivers of light-duty vehicles—cars and light-duty trucks, including sport utility vehicles, crossover utility vehicles, minivans, and pickup trucks—paid in federal fuel taxes in 2022.

EVs are expected to make up a growing share of light-duty vehicle sales in coming years, but the stock of vehicles is replaced slowly—the average age of passenger vehicles driven in the United States is 12 years. Even with substantial growth in EV sales, a $100 annual EV fee would result in an annual average of $2 billion in revenues credited to the Highway Trust Fund over the 2024–2033 period.[3] Over that period, revenues from the fee would amount to about $20 billion, in CBO's estimation. By comparison, projected shortfalls in the Highway Trust Fund's highway and transit accounts over the same period total $241 billion.[4]

CBO's estimate of revenues from a fee for EVs does not account for two factors. First, imposing such a fee would reduce taxable business and individual income. The resulting reductions in receipts from income and payroll taxes would not affect the Highway Trust Fund, but in the overall budget, they would partially offset the revenues from the new fee. And second, the estimate does not account for the cost of the administrative and auditing systems required to collect a fee for EVs. The development of such a framework would take time and funding, as would the necessary outreach to owners of EVs.

Representative Garamendi's Question About Assessing the Efficacy and Fairness of a Vehicle-Miles Traveled Charge

Question. I think it is clear to all of us that the funding mechanism for the Highway Trust Fund needs to be rethought. One potential avenue for that is a Vehicle-Miles Traveled, or VMT, charge. We have an excellent study from California which found minimal concerns over the equity of a VMT charge for rural and

1. Testimony of Chad Shirley, principal analyst, Congressional Budget Office, before the House Transportation and Infrastructure Committee's Subcommittee on Highways and Transit, *The Status of the Highway Trust Fund: 2023 Update* (October 18, 2023), www.cbo.gov/publication/59634.

2. In 2022, about 3 million plug-in electric cars and light trucks were on the road—a number that represents 1 percent of the stock of light-duty vehicles. Energy Information Administration, "Reference Case Projections Tables" (supplemental tables for *Annual Energy Outlook 2023*, March 2023), Table 39, www.eia.gov/outlooks/aeo/tables_ref.php.

3. For projections of EV sales and vehicle stock, see David Austin, *Modeling the Demand for Electric Vehicles and the Supply of Charging Stations in the United States*, Working Paper 2023-06 (Congressional Budget Office, September 2023), www.cbo.gov/publication/58964.

4. Congressional Budget Office, "Details About Baseline Projections for Selected Programs: Highway Trust Fund Accounts" (May 2023), www.cbo.gov/publication/51300. CBO's baseline budget projections reflect the assumptions that current laws governing taxes and spending generally do not change and that funding for highway and transit programs increases annually at the rate of inflation. Some of the taxes that are credited to the Highway Trust Fund are scheduled to expire on September 30, 2028, including the taxes on tires and all but 4.3 cents of the federal tax on motor fuels. However, under the rules governing baseline projections, CBO's estimates reflect the assumption that all the expiring taxes credited to the fund will continue to be collected after fiscal year 2028.

low-income drivers. What more needs to be done to assess the efficacy and fairness of a VMT charge so that Congress can have reliable information to inform our decision-making before the next Highway Bill?

Answer. Assessments of the efficacy and fairness of a VMT tax would depend on the specifics of the proposal—such as the types of vehicles and roads subject to the tax, the rates, and the methods of calculation and payment. To assess efficacy, CBO could estimate the revenues that would be obtained from a VMT tax, compare those revenues with potential spending amounts from the Highway Trust Fund, and project whether such a proposal would still result in a shortfall in the trust fund. To help the Congress assess fairness, CBO could provide additional information about whether certain groups of drivers would pay more or less in VMT taxes relative to their projected use of highways, what they currently pay in gasoline taxes, or their income.

Representative Moulton's Question About Charging More to the Trucking Industry

Question. What would be the effect on US infrastructure if the trucking industry paid their fair share of costs to maintain our nation's roads and bridges? How could this potentially affect modal shift to freight rail?

Answer. The most recent national study of how different types of vehicles contribute to the highway costs that federal programs pay for was published by the Federal Highway Administration in 2000.[5] Passenger vehicles constituted the largest group of vehicles in use and were estimated to account for about 60 percent of federal highway costs in that year, even though their estimated cost per mile of highway use—about one cent—was the lowest of all vehicles. Trucks accounted for the remaining 40 percent of federal highway costs but provided about one-third of the Highway Trust Fund's revenues.[6] For each mile they traveled in 2000, combination trucks (that is, tractors pulling one or more trailers) were estimated to impose a cost of 8 cents. For all trucks, the estimated cost per mile traveled ranged from 2 cents for trucks carrying the lightest loads to 20 cents for those with the heaviest loads.[7] If truck transportation were more expensive, trucks would be driven less, and the reduction in miles traveled would lessen wear and tear on the roads. Furthermore, if the trucking industry paid more for using highways, more money would be available to improve them.

The costs of transportation include not only wear and tear on roads and bridges but also "external" costs to society, such as delays caused by traffic congestion; injuries, fatalities, and property damage from accidents; and harmful effects from exhaust emissions. In 2015, CBO estimated that the unpriced external costs (per ton-mile) of transporting freight by truck were about eight times the unpriced external costs of transporting freight by rail; those costs, net of existing taxes, represented about 20 percent of the cost of truck transport and about 11 percent of the cost of rail transport.[8] (A ton-mile represents one ton of freight transported one mile.) By CBO's estimate, adding unpriced external costs to the rates charged by each mode of transport—via a weight-distance tax plus an increase in the tax on diesel fuel—would have caused a 4 percent shift of ton-miles from truck to rail and a 1 percent reduction in the total amount of tonnage transported.

Representative Ryan's Question About How the Highway Trust Fund Supports the Expansion and Upgrading of Highways

Question. The Route 17/I-86 upgrade is critical for continued economic and community development in Orange County, the Hudson Valley, and lower New

5. Federal Highway Administration, *Addendum to the 1997 Federal Highway Cost Allocation Study Final Report* (May 2000), www.fhwa.dot.gov/policy/hcas/addendum.cfm.

6. More recently, some state governments have calculated cost shares for different types of vehicles that are similar to the estimates in the Federal Highway Administration study. In 2019, the state of Oregon estimated that light vehicles (mainly cars and other passenger vehicles) would account for about two-thirds of state highway costs in 2020 and heavy vehicles for about one-third. As that report noted, however, highway spending by state governments includes maintenance costs, such as snow removal and pothole patching, whereas federal spending does not. Oregon Department of Administrative Services, Office of Economic Analysis, *Highway Cost Allocation Study, 2019–2021 Biennium* (prepared by ECONorthwest, 2019), www.oregon.gov/das/oea/pages/hcas.aspx.

7. Federal Highway Administration, *Addendum to the 1997 Federal Highway Cost Allocation Study Final Report* (May 2000), Tables 4 and 6, www.fhwa.dot.gov/policy/hcas/addendum.cfm.

8. David Austin, *Pricing Freight Transport to Account for External Costs*, Working Paper 2015-03 (Congressional Budget Office, March 2015), www.cbo.gov/publication/50049.

York State. How does the Highway Trust Fund support projects like this one in my district? Given the enormous economic benefit that communities stand to gain from upgrades like this one, what can Congress do to ensure that these projects are approved and accomplished in a timely manner?

Answer. The Highway Trust Fund supports projects by providing federal funds for highways and other roads; that funding totaled $52 billion in fiscal year 2022. Most of those outlays were for grants to state and local governments to support their spending on capital projects. Those grants are provided on the basis of funding formulas determined by the Congress or through competitive programs created by the Congress and administered by the Department of Transportation. (State and local governments typically spend roughly three times as much of their own funds on highways each year, not only on capital projects but also to operate and maintain roads.) That $52 billion also included spending for federal programs that subsidize state and local governments' borrowing for highway projects; other subsidies for state and local borrowing are provided through the tax code.

To attain the economic benefits of the federal highway grants in a timely manner, the Congress could consider approaches that would make highway spending more productive.[9] Such approaches include the following:

- Having the federal government—or allowing states or private businesses to—more often charge drivers directly for their use of roads,
- Allocating funds to states on the basis of the benefits and costs of specific programs and projects, and
- Linking spending more closely to performance measures—such as measures of traffic congestion or road quality—by providing additional funds to states that meet standards or penalizing states that do not.

Lawmakers may also choose to fund highway projects to achieve various other objectives—including boosting economic activity in the short term, increasing employment, and increasing rural access to transportation networks. They may want to avoid too much of a mismatch between the gasoline taxes paid in each state and the federal funds allocated to each state. Or they may wish to direct less of the spending and, instead, provide money for states to pursue their own objectives as long as the work is done, for instance, on the National Highway System or some other set of roads with national significance. Finally, lawmakers could change the regulatory process for highway projects to allow such projects to be approved and completed more quickly.

9. For more information, see Congressional Budget Office, *Approaches to Making Federal Highway Spending More Productive* (February 2016), www.cbo.gov/publication/50150.